



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,255	08/27/2003	Yoshihisa Suda	053466-0366	5217

22428 7590 02/13/2007
FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

FASTOVSKY, LEONID M

ART UNIT	PAPER NUMBER
----------	--------------

3742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/648,255

Applicant(s)

SUDA ET AL.

Examiner

Leonid M. Fastovsky

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-28 and 30 is/are rejected.
- 7) ☒ Claim(s) 29,31 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Remarks, filed 6/13/06, with respect to the rejection(s) of claim(s) 12-32 under Mitsubishi have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Okumura and Kyocera.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Okumura (JP59121920).

Okumura teaches a heater 2 composed of carbon, inherently acting as a good conductor and boron nitride, boron nitride inherently acting as a conductivity-inhibiting material, and because of the composition boron nitride is inherently dispersed in carbon (Abstract and English translation).

Claim 13 is a product-by-process claim, the claimed product appears to be the same or similar that of the prior art, and the product itself does not depend on the process of making it. In re Marosi, 218 USPQ 289, 292 (Fed. Cir. 1983).

4. Claims 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kyocera (JP073168816).

Kyocera teaches a heater-hard layer 3 composed of carbon, inherently acting as a good conductor and boron nitride, boron nitride inherently acting as a conductivity-inhibiting material, and because of the composition boron nitride is inherently dispersed in carbon (Abstract and English translation).

Claim 13 is a product-by-process claim, the claimed product appears to be the same or similar that of the prior art, and the product itself does not depend on the process of making it. In re Marosi, 218 USPQ 289, 292 (Fed. Cir. 1983).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura or Kyocera in view of Yasuda (JP59219886).

Okumura or Kyocera discloses the carbon heater, but does not disclose explicitly a carbon powder. Yasuda discloses a heater comprising a carbon powder It would have been obvious to one having ordinary skill in the art to modify Okumura's heater or Kyocera's heater to include a carbon powder as taught by Yasuda in order to provide high efficiency heater (Title).

7. Claims 17-23 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura or Kyocera in view of Sotodani et al (JP09007955).

Okumura or Kyocera discloses substantially the claimed invention, but does not disclose a specific resistivity. Sotodani discloses a carbon heater 16 having a specific resistance between 4000 to 4400 micro ohm-cm (Abstract). It would have been obvious to one having ordinary skill in the art to modify Okumura's heater or Kyocera's heater having specific resistivity in a range as taught by Sotodani in order to meet specific needs of the user.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura or Kyocera in view of Jones (3,817,735).

Okumura or Kyocera discloses substantially the claimed invention, but is silent regarding the heater having a rectangular cross-section. Jones discloses a carbon heater comprising bars 79 each bar is of rectangular cross-section (col. 3, lines 20-35 and 65-70). It would have been obvious to one having ordinary skill in the art to modify Okumura's heater or Kyocera's heater to include the carbon heater having a rectangular cross-section as taught by Jones in order to have a shape of the heater determined by the user having a desired result in mind.

9. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura or Kyocera in view of Jones and further in view of Konishi et al (6,143,238).

Okumura or Kyocera in view of Jones discloses substantially the claimed invention, but is silent regarding the heater having a metalliod. Konishi discloses a carbon heater 1 comprising a heating element 10 and comprising a metallic carbon silicide (col. 3, lines

25-38). It would have been obvious to one having ordinary skill in the art to modify the invention of Okumura or Kyocera in view and Jones to include the carbon heater having a metalloid as taught by Konishi in order to ensure is a conductivity - inhibiting qualities of the heater as necessary as desired by the user.

10. Claims 16 and 26 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura or Kyocera in view of Kawakudo.

Okumura or Kyocera discloses substantially the claimed invention, but does not disclose a method of making a carbon heating element. Kawakudo discloses a method of making a carbon product inherently enclosed in a vessel with inert gas and firing organic substances such as polyvinyl chloride and furan resin Abstract and col. 2, lines 39-68, and col. 4, lines 10-20). It would have been obvious to one having ordinary skill in the art to modify Okumura's invention or Kyocera's invention to use them in a method of making the carbon product as taught by Kawakudo because they disclose all structure elements of the invention and are capable of so perform.

As for claim 27, yield of carbonization of organic substances in the method of making the carbon heater would be at least 5% since the resulting carbonization is the result of the firing process, such the result would have been an inherent result of the process done in the prior art as well.

Allowable Subject Matter

11. Claims 29 and 31-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Response to Arguments


13. Applicant's arguments with respect to claims 12 - 28 and 30 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M. Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

Art Unit: 3742

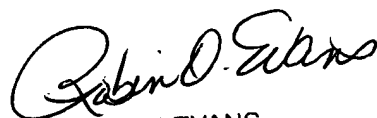
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leonid M Fastovsky
Examiner
Art Unit 3742

lmf

6/27/06


ROBIN EVANS
SUPERVISORY PATENT EXAMINER
1/8/07